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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,262	09/15/2003	Graham Roger Jones	YAMAP0886US	9031

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EXAMINER	
BLACKMAN, ROCHELLE ANN J	

ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/662,262	JONES, GRAHAM ROGER	
	Examiner	Art Unit	
	Rochelle Blackman	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/15/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-12 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Brown et al. (U.S. Patent Application Publication No. 2003/0016444).

Brown discloses an autostereoscopic display (FIGS. 1-9) comprising an image display (112, 113), a signal display (121-123), and a parallax optic (11 and 12) having a first portion (12), which cooperates with said image display to form a plurality of right and left eye viewing zones (see arrows leading to elements 13 and 14) in a viewing region (S), and a second portion (11), which cooperates with said signal display to form a first signal image (image created by 112) which is visible in at least one first part of said viewing region and a second signal image (image created by 113) which is visible in at least one second part of said viewing region, said first portion comprising an array of parallax elements (see 12) having a first pitch in a first direction (half of 2WP, which would be just WP), and said second portion comprising an array of parallax elements having a second pitch (WL) substantially equal to one and a half times said first pitch in

said first direction; in which said at least one first part comprises an orthoscopic viewing zone (see 112); in which said at least one second part comprises pseudoscopic viewing zones adjacent said orthoscopic viewing zone (see 113); in which one of said first and second signal images is a bright image and another of said first and second signal images is a dark image (see FIG. 2A-2 and paragraph [0049] - *no light is emitted from these areas* is considered to be the dark image); in which said first signal image is of a first colour and said second signal image is of a second colour different from said first colour (also see pg. 4, paragraph [0049]); in which said image display and said signal display comprise first and second portions, respectively, of a common display (see 112, 113, and 121-123); in which said common display comprises a light source and one of a light-transmissive and a trans-reflective spatial light modulator (see pg. 8, paragraph [0088]); in which said spatial light modulator comprises a liquid crystal device (also pg. 8, paragraph [0088]); in which said image display and said first portion cooperate to form said viewing zones in a plurality of lobes with two of said viewing zones per lobe (see 300 and 400 of FIGS. 3 and 4); in which said parallax optic comprises a lens array (see 12); in which said lens array comprises a lenticular screen (also see 12); in which said parallax optic comprises an array of holographic optical elements (see 12 and paragraph [0024]); in which said signal display is arranged to be active throughout a lateral extent corresponding to a lateral extent of each three dimensional image displayed by said image display (see pg. 10, claim 28).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (U.S. Patent Application Publication No. 2003/0016444) in view of Woodgate et al. (U.S. Patent No. 6,055,013).

Brown discloses the claimed invention except for the parallax optic comprising a parallax barrier; in which said first portion of said parallax barrier comprises a plurality of slits of a first width and said second portion of said parallax barrier comprises a plurality of slits of the first width; in which said first portion of said parallax barrier comprises a plurality of slits of a first width and said second portion of said parallax barrier comprise a plurality of slits of a second width less than said first width; in which said parallax barrier comprises a plurality of parallax elements and alternate ones of said parallax elements of said second portion are aligned in a second direction substantially perpendicular to said first direction with respective ones of said parallax elements of said first portion; in which said parallax optic is removable for a non-autostereoscopic display mode; in which said parallax barrier comprises a first layer and a removable second layer, said first layer comprising barrier regions for supplying light having a first polarisation and aperture regions for supplying at least light having a second polarisation which is substantially orthogonal to said first polarisation, said second layer

comprising a polariser for passing light of said second polarization; in which said image display and said signal display are arranged to supply light of said first polarisation, said barrier regions are arranged to pass light of said first polarisation, and said aperture regions are arranged to convert light of said first polarisation at least partially to light of said second polarization; in which said first layer is a half waveplate, said barrier regions have optic axes parallel to said first polarisation and said aperture regions have optic axes aligned at 45.degree. to said first polarisation.

Woodgate discloses an autostereoscopic display comprising a parallax barrier with a first layer and a removable second layer, the first layer comprising barrier regions for passing light having a first polarisation and aperture regions for supplying at least light having a second polarisation which is substantially orthogonal to the first polarisation, the second layer comprising a polariser for passing light of the second polarization, where the second layer acts as an output polariser which absorbs light of the first polarisation and transmits light of the second polarisation when the display is in its 3D mode, the first layer may be fixed in correct registration with respect to the remainder of the autostereoscopic display and switching between autostereoscopic and non-autostereoscopic modes can be achieved by removing and replacing the second layer, which requires only angular registration with respect to the rest of the display, thus reducing the tolerance requirements so that difficulties with aligning a movable element can be reduced or avoided. Further, Woodgate discloses an image display and a signal display may be arranged to supply light of the first polarisation, the barrier regions may be arranged to pass light of the first polarisation, and the aperture regions

may be arranged to convert light of the first polarisation at least partially to light of the second polarization, where the first layer may be a half waveplate, the barrier regions may have optic axes parallel to the first polarisation and the aperture regions may have optic axes aligned at 45 degrees to the first polarization, thus avoiding the use of devices such as polarisation rotators in the barrier regions, suppression of light from the barrier regions can be maximized across the visible spectrum which allows cross-talk between views to be minimized (see FIGS. 6-9 and 23-26 and col. 4, lines 24-54).

It would have been obvious to one ordinary skill in the art at the time invention was made to provide the autostereoscopic display of the Brown reference with the parallax barrier having the removable layer, of the Woodgate reference, in order to switch between autostereoscopic and non-autostereoscopic modes, thus reducing the tolerance requirements so that difficulties with aligning a movable element can be reduced or avoided and further, to avoid the use of devices such as polarisation rotators in the barrier regions, thus suppression of light from the barrier regions can be maximized across the visible spectrum allowing cross-talk between views to be minimized.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rochelle Blackman whose telephone number is (571) 272-2113. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RB

JUDY NGUYEN
PRIMARY EXAMINER